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***Attorneys for Plaintiff
Commstech LLC.***

**UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA**

COMMSTECH LLC,

Plaintiff,

v.

DIALOGIC (US) INC.,

Defendant.

Case No. _____

**COMPLAINT FOR PATENT
INFRINGEMENT**

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Commstech LLC (“Commstech” or “Plaintiff”) hereby asserts the following claims for patent infringement against Defendant Dialogic (US) Inc., (“Defendant”), and alleges as follows:

SUMMARY

1. Commstech owns United States Patent Nos. 7,769,028 (the “’028 Patent”) and 7,990,860 (the “’860 Patent”) (collectively, the “Asserted Patents”).

2. Defendant infringes the Asserted Patents by implementing, without authorization, Commstech’s proprietary technologies in a number of its commercial networking products and related software including, *inter alia*, Defendant’s session border controllers (e.g., Dialogic BorderNet 4000 Session Border Controller),

3. By this action, Commstech seeks to obtain compensation for the harm Commstech has suffered as a result of Defendant’s infringement of the ‘340 Patent.

NATURE OF THE ACTION

4. This is a civil action for patent infringement arising under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*

5. Defendant has infringed and continues to infringe, and at least as early as the filing and/or service of this Complaint, has induced and continues to induce infringement of, and has contributed to and continues to contribute to infringement of, at least one or more claims of Commstech’s ‘340 Patent at least by making, using, selling, and/or offering to sell its products and services in the United States, including in this District.

6. Commstech is the legal owner by assignment of the ‘340 Patent, which were duly and legally issued by the United States Patent and Trademark Office (“USPTO”). Commstech

1 seeks monetary damages for Defendant's infringement of the '340 Patent.

2 **THE PARTIES**

3 7. Plaintiff Commstech LLC is a Texas limited liability company with its principal
4 place of business at 1708 Harrington Dr., Plano, Texas 75075. Commstech is the owner of
5 intellectual property rights at issue in this action.
6

7 8. On information and belief, Defendant Dialogic (US) Inc., is a Delaware
8 corporation. Dialogic maintains an office at 1504 McCarthy Boulevard, Milpitas, CA 95035. On
9 information and belief, Defendant may be served via its registered agent for service of process:
10 Corporation Service Company, 251 Little Falls Dr., Wilmington, DE 19807.
11

12 9. On information and belief, Defendant directly and/or indirectly develops, designs,
13 manufactures, distributes, markets, offers to sell and/or sells infringing products and services in
14 the United States, including in the Northern District of California, and otherwise directs infringing
15 activities to this District in connection with its products and services.
16

17 **JURISDICTION AND VENUE**

18 10. As this is a civil action for patent infringement arising under the patent laws of the
19 United States, 35 U.S.C. § 1 *et seq.*, this Court has subject matter jurisdiction over the matters
20 asserted herein under 28 U.S.C. §§ 1331 and 1338(a).
21

22 11. Defendant is subject to this Court's specific and general personal jurisdiction
23 pursuant to due process and/or the California Long Arm Statute, due at least to Defendant's
24 substantial business in this forum, including: (i) at least a portion of the infringements alleged
25 herein; (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct,
26 and/or deriving substantial revenue from goods and services provided to individuals in California
27 and in this district; and (iii) having a regular place of business in this District.
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12. In particular, Defendant has committed and continues to commit acts of infringement in violation of 35 U.S.C. § 271, and has made, used, marketed, distributed, offered for sale, sold, and/or imported infringing products in the State of California, including in this District, and engaged in infringing conduct within and directed at or from this District. For example, Defendant has purposefully and voluntarily placed the Accused Products into the stream of commerce with the expectation that the Accused Products will be used in this District. The Accused Products have been and continue to be distributed to and used in this District. Defendant's acts cause and have caused injury to Commstech, including within this District.

13. Venue is proper in this District under the provisions of 28 U.S.C. §§ 1391 and 1400(b) at least because a substantial part of the events or omissions giving rise to the claims occurred in this District, and because Defendant has committed acts of infringement in this District. Furthermore, Defendant has a regular and established place of business in the District located at 1504 McCarthy Boulevard, Milpitas, CA 95035.

The '028 Patent

14. U.S. Patent No. 7,769,028 ("the '028 Patent") is entitled "Systems and methods for adaptive throughput management for event-driven message-based data," and was issued on August 3, 2010. A true and correct copy of the '028 Patent is attached as Exhibit A.

15. The '028 Patent was filed on June 21, 2006 as U.S. Patent Application No. 11/471,923.

16. Commstech is the owner of all rights, title, and interest in and to the '028 Patent, with the full and exclusive right to bring suit to enforce the '028 Patent, including the right to recover for past infringement.

17. The '028 Patent is valid and enforceable under United States Patent Laws.

18. The '028 Patent discloses, among other things, "a method for communicating data including prioritizing data by assigning a priority to the data, analyzing a network to determine a status of the network, and communicating data based at least in part on the priority of the data and the status of the network." Exhibit A at Abstract. The '028 Patent also discloses "Quality of Service (QoS)," which "refers to one or more capabilities of a network to provide various forms of guarantees with regard to data this is carried." *Id.* at 4:16-18. The '028 Patent states that "[t]he primary goal of QoS is to provide priority including dedicated bandwidth, controlled jitter and latency (required by some real-time and interactive traffic), and improved [data] loss characteristics." *Id.* at 4:27-31.

19. In discussing QoS, the '028 Patent recognized various shortcomings of existing QoS systems. As one example, the '028 Patent states that "[e]xisting QoS systems cannot provide QoS based on message content at the transport layer" of the Open Systems Interconnection (OSI) seven-layer protocol model. Exhibit A at 5:1-2. Indeed, the '028 Patent explains that the "Transmission Control Protocol (TCP)," which is a protocol at the transport layer, "requires several forms of handshaking and acknowledgements to occur in order to send data," and "[h]igh latency and [data] loss may result in TCP hitting time outs and not being able to send much, if any, meaningful data over [] a network." *Id.* at 1:57-60, 3:53-57. As another example, the '028 Patent states that "[c]urrent approaches to QoS often require every node in a network to support QoS, or at the very least, for every node in the network involved in a particular communication to support QoS," but such approaches to QoS "do[] not scale well because of the large amount of state information that must be maintained at every node and the overhead associated with setting up such connections." *Id.* at 4:35-39, 4:46-49. As yet another example, the '028 Patent states that "[d]ue to the mechanisms existing QoS solutions utilize, messages that look the same to current

1 QoS systems may actually have different priorities based on message content,” but “data
2 consumers may require access to high-priority data without being flooded by lower-priority data.”
3 *Id.* at 4:61-67.

4 20. In discussing the shortcomings of the prior art, the ‘028 Patent recognized that
5 “[t]here is a need for systems and methods for providing QoS on the edge of a [] data network,”
6 and “a need for adaptive, configurable QoS systems and methods in a [] data network.” Exhibit A
7 at 5:17-20. The claimed inventions of the ‘028 Patent provide such systems and methods.
8

9 **The Inventions Claimed in the ‘028 Patent Improved Technology &**
10 **Were Not Well-Understood, Routine, or Conventional**

11 21. Given the state of the art at the time of the inventions of the ‘028 Patent, including
12 the deficiencies with existing QoS systems for computer networks, the inventive concepts of the
13 ‘028 Patent cannot be considered to be conventional, well-understood, or routine. *See, e.g.*, Exhibit
14 A at 1:57-60, 3:53-57, 4:35-39, 4:46-49, 4:61-67, 5:1-2, 5:17-20. The ‘028 Patent discloses,
15 among other things, an unconventional solution to problems arising in the context of
16 communications networks that relied on existing QoS systems, namely, that such QoS systems did
17 not scale, were not adaptive or configurable to different network types or architectures, and could
18 not provide QoS based on message content at the transport layer, among other deficiencies. *See,*
19 *e.g., id.*
20

21
22 22. To address one or more deficiencies with existing QoS systems, the inventions of
23 the ‘028 Patent offered a technological solution that facilitated providing an improved technique
24 for communicating data over a network, which helped to control jitter and latency and improve
25 data loss, among other benefits. In particular, the inventions of the ‘028 Patent provided a specific,
26 unconventional solution for prioritizing data as part of and/or at the top of the transport layer,
27 dynamically changing rules for assigning priority to data, and communicating data based at least
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1 in part on the priority of the data and the status of the network. *See, e.g., id.* at Claims 1, 13, 17;
2 7:29-31. In this respect, the inventions of the '028 Patent improved the technical functioning of
3 computers and computer networks by reciting a specific technique for prioritizing data
4 communications over a network. *See, e.g., id.* at 4:11-37, 4:57-5:9.

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6 23. Indeed, it was not well-understood, routine, or conventional at the time of the
7 invention of the '028 Patent for a communication device to (i) prioritize data by assigning priority
8 to data, where the prioritization occurs either as part of and/or at the top of the transport layer, (ii)
9 analyze a network to determine a status of the network, (iii) select a mode based on the status of
10 the network, (iv) change rules for assigning priority to the data based on the mode, and (v)
11 communicate the data based at least in part on the priority of the data and the status of the network,
12 where the data is communicated at a transmission rate metered based at least in part on the status
13 of the network. *See, e.g.,* Exhibit A at Claim 1. Moreover, it was not well-understood, routine, or
14 conventional at the time of the invention of the '028 Patent for a communication device to receive
15 the data at a node on the edge of the network. *See, e.g.,* Exhibit A at Claim 5. It was also not well-
16 understood, routine, or conventional at the time of the invention of the '028 Patent for a
17 communication device to receive the data at least in part from an application program and/or
18 communicate the data to an application program. *See, e.g., id.* at Claims 6, 12. Further, it was not
19 well-understood, routine, or conventional at the time of the invention of the '028 Patent for a
20 communication device to assign the priority to the data based at least in part on message content
21 of the data, protocol information of the data, or a user defined rule. *See, e.g., id.* at Claims 7-9.

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24 24. Additionally, it was not well-understood, routine, or conventional at the time of the
25 invention of the '028 Patent for a communication system to include (i) a data prioritize component
26 adapted to assign a priority to data, where the prioritization occurs either as part of and/or at the
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top of the transport layer, (ii) a network analysis component adapted to determine a status of the network, (iii) a mode selection component adapted to select a mode based at least on the status of the network, and (iv) a data communications component adapted to communicate the data based at least in part on the priority of the data and the status of the network, where the data prioritization component is adapted to assign priority to the data based on prioritization rules that are selected based on a selected mode, and where the data is communicated at a transmission rate metered based at least in part on the status of the network. *See, e.g.*, Exhibit A at Claims 13, 17. It was also not well-understood, routine, or conventional at the time of the invention of the '028 Patent for a communication system to include a data organization component adapted to organize the data with respect to other data based at least in part on the priority of the data. *See, e.g., id.* at Claim 14.

25. These are just exemplary reasons why the inventions claimed in the '028 Patent were not well-understood, routine, or conventional at the time of the invention of the '028 Patent.

26. Consistent with the problems addressed being rooted in QoS systems for computer networks, the '028 Patent's inventions naturally are also rooted in that same technology that cannot be performed solely with pen and paper or in the human mind. Indeed, using pen and paper or a human mind would not only ignore, but would run counter to, the stated technical solution of the '028 Patent noted above and the technical problems that the '028 Patent was specifically designed to address. Likewise, at least because the '028 Patent's claimed inventions address problems rooted in QoS systems for computer networks, these inventions are not merely drawn to longstanding human activities.

The '860 Patent

27. U.S. Patent No. 7,990,860 ("the '860 Patent") is entitled "Method and system for

rule-based sequencing for QoS,” and was issued on August 2, 2011. A true and correct copy of the ‘860 Patent is attached as Exhibit B.

28. The ‘860 Patent was filed on June 16, 2006 as U.S. Patent Application No. 11/454,220.

29. Commstech is the owner of all rights, title, and interest in and to the ‘860 Patent, with the full and exclusive right to bring suit to enforce the ‘860 Patent, including the right to recover for past infringement.

30. The ‘860 Patent is valid and enforceable under United States Patent Laws.

31. The ‘860 Patent discloses, among other things, “a method for communicating data over a network to provide Quality of Service,” including “prioritizing the data, and communicating the data based at least in part on the priority.” Exhibit B at Abstract. According to the ‘860 Patent, “Quality of Service (QoS)” “refers to one or more capabilities of a network to provide various forms of guarantees with regard to data that is carried.” *Id.* at 4:16-18. The ‘860 Patent states that “[t]he primary goal of QoS is to provide priority including dedicated bandwidth, controlled jitter and latency (required by some real-time and interactive traffic), and improved [data] loss characteristics.” *Id.* at 4:27-32.

32. Like the ‘028 Patent, the ‘860 Patent recognized various shortcomings of existing QoS systems. As one example, the ‘860 Patent states that “[e]xisting QoS systems cannot provide QoS based on message content at the transport layer” of the Open Systems Interconnection (OSI) seven-layer protocol model. Exhibit B at 5:2-3. Indeed, the ‘860 Patent explains that the “Transmission Control Protocol (TCP),” which is a protocol at the transport layer, “requires several forms of handshaking and acknowledgements to occur in order to send data,” and “[h]igh latency and [data] loss may result in TCP hitting time outs and not being able to send much, if any,

1 meaningful data over [] a network.” *Id.* at 1:57-60, 3:53-57. As another example, the ‘860 Patent
2 states that “[c]urrent approaches to QoS often require every node in a network to support QoS, or
3 at the very least, for every node in the network involved in a particular communication to support
4 QoS,” but such approaches to QoS “do[] not scale well because of the large amount of state
5 information that must be maintained at every node and the overhead associated with setting up
6 such connections.” *Id.* at 4:36-39, 4:47-50. As yet another example, the ‘860 Patent states that
7 “[d]ue to the mechanisms existing QoS solutions utilize, messages that look the same to current
8 QoS systems may actually have different priorities based on message content,” but “data
9 consumers may require access to high-priority data without being flooded by lower-priority data.”
10 *Id.* at 4:64-5:1.

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13 33. In discussing the shortcomings of the prior art, the ‘860 Patent recognized that
14 “[t]here is a need for systems and methods for providing QoS on the edge of a [] data network,”
15 and “a need for adaptive, configurable QoS systems and methods in a [] data network.” Exhibit B
16 at 5:19-22. The claimed inventions of the ‘860 Patent provide such systems and methods.

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18 **The Inventions Claimed in the ‘860 Patent Improved Technology &**
19 **Were Not Well-Understood, Routine, or Conventional**

20 34. Given the state of the art at the time of the inventions of the ‘860 Patent, including
21 the deficiencies with existing QoS systems for computer networks, the inventive concepts of the
22 ‘860 Patent cannot be considered to be conventional, well-understood, or routine. *See, e.g.*, Exhibit
23 B at 1:57-60, 3:53-57, 4:36-39, 4:47-50, 4:64-5:2, 5:19-22. The ‘860 Patent discloses, among
24 other things, an unconventional solution to problems arising in the context of communications
25 networks that relied on existing QoS systems, namely, that such QoS systems did not scale, were
26 not adaptive or configurable to different network types or architectures, and could not provide QoS
27 based on message content at the transport layer, among other deficiencies. *See, e.g., id.*
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1 35. To address one or more deficiencies with existing QoS systems, the inventions of
2 the '860 Patent offered a technological solution that facilitated providing an improved technique
3 for communicating data over a network, which helped to control jitter and latency and improve
4 data loss, among other benefits. In particular, the inventions of the '860 Patent provided a specific,
5 unconventional solution for prioritizing data as part of and/or at the top of the transport layer by
6 sequencing the data based at least in part on a user defined rule. *See, e.g., id.* at Abstract, Claims
7 1, 13, 17. In this respect, the inventions of the '860 Patent improved the technical functioning of
8 computers and computer networks by reciting a specific technique for prioritizing data
9 communications over a network. *See, e.g., id.* at 4:11-37, 4:57-5:9.

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11 36. Indeed, it was not well-understood, routine, or conventional at the time of the
12 invention of the '860 Patent for a communication device to include (i) a network analysis
13 component configured to determine a network status from a plurality of network statuses based on
14 analysis of network measurements, and determine at least one of an effective link speed and a link
15 proportion for at least one link, (ii) a mode selection component configured to select a mode from
16 a plurality of modes that corresponds with at least one of the plurality of network statuses based
17 on the determined network status, where each of the plurality of modes comprises a user defined
18 sequencing rule, (iii) a data prioritization component configured to operate at a transport layer of
19 a protocol stack and prioritize the data by assigning a priority to the data, where the prioritization
20 component includes a sequencing component configured to sequence the data based at least in part
21 on the user defined sequencing rule of the selected mode, (iv) a data metering component
22 configured to meter inbound data by shaping the inbound data at the data communications system
23 for the at least one link, and meter outbound data by policing the outbound data at the data
24 communications system for the at least one link, and (v) a data communication component
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1 configured to communicate the data based at least in part on the priority of the data, the effective
2 link speed, and/or the link proportion. *See, e.g.*, Exhibit B at Claims 1, 15, 20.

3 37. Moreover, it was not well-understood, routine, or conventional at the time of the
4 invention of the '860 Patent for the user defined sequencing rule mentioned above to be
5 dynamically reconfigurable. *See, e.g.*, Exhibit B at Claim 5. It was also not well-understood,
6 routine, or conventional at the time of the invention of the '860 Patent for a communication device
7 to receive the data at least in part from an application program operating on the node, or pass the
8 data at least in part to an application program operating on the node. *See, e.g., id.* at Claims 6, 12.
9 Further, it was not well-understood, routine, or conventional at the time of the invention of the
10 '860 Patent for a communication device to prioritize the data by differentiating the data based at
11 least in part on message content, protocol information, or a user defined differentiation rule. *See,*
12 *e.g., id.* at Claims 8-11.

13 38. These are just exemplary reasons why the inventions claimed in the '860 Patent
14 were not well-understood, routine, or conventional at the time of the invention of the '860 Patent.

15 39. Consistent with the problems addressed being rooted in QoS systems for computer
16 networks, the '860 Patent's inventions naturally are also rooted in that same technology that cannot
17 be performed solely with pen and paper or in the human mind. Indeed, using pen and paper or a
18 human mind would not only ignore the stated technical solution of the '860 Patent noted above
19 and the technical problem that the '860 Patent was specifically designed to address. Likewise, at
20 least because the '860 Patent's claimed inventions address problems rooted in QoS systems for
21 computer networks, these inventions are not merely drawn to longstanding human activities.

22 **COUNT I: INFRINGEMENT OF U.S. PATENT NO. 7,769,028**

23 40. Commstech incorporates by reference and re-alleges paragraphs 14-26 of this
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1 Complaint as if fully set forth herein.

2 41. Defendant has infringed and is infringing, either literally or under the doctrine of
3 equivalents, the '028 Patent in violation of 35 U.S.C. § 271 *et seq.*, directly and/or indirectly, by
4 making, using, offering for sale, or selling in the United States, and/or importing into the United
5 States without authority or license the Accused Products.
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7 42. As just one non-limiting example, set forth below (with claim language in bold and
8 italics) is exemplary evidence of infringement of Claim 1 of the '028 Patent in connection with the
9 Accused Products. This description is based on publicly available information. Commstech
10 reserves the right to modify this description, including, for example, on the basis of information
11 about the Accused Products that it obtains during discovery.
12

13 ***1(a): A method for communicating data, the method including:***—Defendant makes, uses,
14 sells, and/or offers to sell a device or system that practices the method of communicating data in
15 accordance with Claim 1.
16

17 For instance, the Dialogic BorderNet 4000 Session Border Controller (SBC) is based on
18 IMS QoS solution and IMS QoS solution is compliant with ETSI TISPAN based network
19 architecture and hence, follows this ETSI standard. BorderNet SBC includes the functionality of
20 RACS and is compliant with ETSI ES 282 003 which is in line with the QoS Requirements
21 described in TS 181 018. See [https://www.dialogic.com/webhelp/BorderNet/bn-4000/Release-](https://www.dialogic.com/webhelp/BorderNet/bn-4000/Release-3.4/pdd/BorderNet4000_SBC_Product%20Description.pdf)
22 [3.4/pdd/BorderNet4000_SBC_Product%20Description.pdf](https://www.dialogic.com/webhelp/BorderNet/bn-4000/Release-3.4/pdd/BorderNet4000_SBC_Product%20Description.pdf). The ETSI standard ETSI TS 181 018
23 V2.0.0 discloses “Telecommunications and Internet converged Services and Protocols for
24 Advanced Networking (TISPAN) Requirements for QoS in a NGN”.
25 [https://www.etsi.org/deliver/etsi_es/282000_282099/282003/03.04.00_50/es_282003v030400m.](https://www.etsi.org/deliver/etsi_es/282000_282099/282003/03.04.00_50/es_282003v030400m.pdf)
26 pdf. The standard discloses role of Resource Admission Control Subsystem (RACS) in QoS
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control in NGN. RACS performs processing of information for QoS management. Thus, RACS is a processing device for communicating data in an NGN.

1(b): performing by at least one processing device;—Defendant makes, uses, sells, and/or offers to sell a device or system that performs the method using a processing device.

For instance, the ETSI standard discloses the role of Resource Admission Control Subsystem (RACS) for QoS control in NGN. Citations show that RACS performs processing of information for QoS management. Thus, RACS is a processing device for communicating data in an NGN. *See*

https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf.

1(c): prioritizing data by assigning a priority to the data, wherein the prioritization occurs at least one of:

in a transport layer of a network communications protocol stack of a data communication system, and

at a top of the transport layer of the network communications protocol stack of the data communication system;—Defendant makes, uses, sells, and/or offers to sell a device or system that prioritizing data by assigning a priority to the data into high and low priority classes.

For instance, bandwidth allocated by RACS varies for different traffic classes. Further, there are 9 parameters for describing QoS requirements, i.e., (type of QoS class) and there is a priority parameter associated with each of these QoS class. Thus, traffic classes here refer to priority of the data belonging to a particular class. *See* https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf. A hierarchical scheduler (for sequencing the data) uses different queues for different classes

of data. A high priority queue is used for high priority data and a low priority queue is used for other low priority data. Further, scheduling of these queues is determined based on available bandwidth for each class. This implies that RACS prioritizes and schedules data according to their priority (traffic class). Within an NGN, certain entities which are part of the transport layer implement parts of RACS. See

https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf;

https://www.etsi.org/deliver/etsi_ts/181000_181099/181005/03.03.01_60/ts_181005v030301p.pdf;

https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf; and

https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf.

1(d): analyzing a network to determine a status of the network;—Defendant makes, uses, sells, and/or offers to sell a device or system that analyze a network to determine a status of the network.

For instance, RACS acquires information related to current topology, resource, routing information, network devices, links, bandwidth available on the link, port utilization, queue depth, queue utilization etc. This implies that RACS analyzes network measurements. QoS is managed by RACS by taking into account the available bandwidth and network resources, i.e. Current status of the network. See https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf.

1 ***1(e): selecting a mode of the data communication system based upon the status of the***
 2 ***network;***—Defendant makes, uses, sells, and/or offers to sell a device or system that selects a mode
 3 of the data communication system based upon the status of the network.

4 For instance, RACS dynamically defines QoS policies depending on the current network
 5 status. Thus, RACS dynamically changes rules and policies for QoS, i.e., network operation,
 6 depending on current network status. Hence, it can be inferred that RACS selects “modes”
 7 depending on current network status. See
 8 [https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.](https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf)
 9 pdf; and
 10 [https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.](https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf)
 11 pdf.
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14 ***1(f): changing rules for assigning priority to the data based upon the mode of the data***
 15 ***communication system; and.***—Defendant makes, uses, sells, and/or offers to sell a device or
 16 system for changing the rules for assigning priority to the data based upon the mode of the data
 17 communication system.
 18

19 For instance, the operator (i.e. user) defines enforcement policies for media flow that are
 20 changed by RACS depending on current network status. This implies that the QoS policies of
 21 RACS related to prioritization and scheduling are based at least in part on the user defined
 22 scheduling rule (enforcement policy). See
 23 [https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.](https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf)
 24 pdf; and
 25 [https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.](https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf)
 26 pdf.
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1 *1(f): communicating the data based at least in part on the priority of the data and the*
 2 *status of the network, wherein the data is communicated at a transmission rate metered based*
 3 *at least in part on the status of the network.*—Defendant makes, uses, sells, and/or offers to sell a
 4 device or system that communicates the data based at least in part on the priority of the data and
 5 the status of the network, wherein the data is communicated at a transmission rate metered based
 6 at least in part on the status of the network.
 7

8 For instance, RACS enables data transmission (communication) based on requested QoS
 9 level or traffic classes (i.e., priority of the data). The bandwidth allocation varies for different
 10 traffic classes, i.e. it depends on the priority of data. RACS takes into consideration the available
 11 bandwidth on the link (i.e., transmission rate) for QoS management. RACS determines current
 12 available bandwidth on the link from total link bandwidth by using knowledge of current
 13 utilization of resources. Hence, it can be concluded that RACS communicates data based on the
 14 priority of the data and the status of the network. See
 15 [https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.](https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf)
 16 [pdf](https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf);
 17 [https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.](https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf)
 18 [pdf](https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf); and
 19 [https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.](https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf)
 20 [pdf](https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf).
 21
 22

23 43. Commstech is in compliance with any applicable marking and/or notice provisions
 24 of 35 U.S.C. § 287 with respect to the ‘028 Patent.
 25

26 44. Commstech is entitled to recover from Defendant all damages that Commstech has
 27 sustained as a result of Defendant’s infringement of the ‘028 Patent, including, without limitation,
 28

1 a reasonable royalty.

2 **COUNT II: INDUCED AND CONTRIBUTORY INFRINGEMENT OF U.S. PATENT**
3 **NO. 6,349,028**

4 45. Defendant has been and/or currently is an active inducer of infringement of the '028
5 Patent under 35 U.S.C. § 271(b) and contributory infringer of the '028 Patent under 35 U.S.C. §
6 271(c).

7 46. Defendant has had knowledge of the '028 Patent and that the Accused
8 Instrumentalities infringe at least claim one since at least the date of the filing of this complaint.

9 47. Defendant has provided the Accused Instrumentalities to its customers and, on
10 information and belief, instructions to use the Accused Instrumentalities in an infringing manner
11 while being on notice of the '028 Patent and Defendant's infringement. Therefore, Defendant
12 knew of the '028 Patent and of its own infringing acts.

13 48. Defendant knowingly and intentionally encourages and aids at least its end-user
14 customers to directly infringe the '028 Patent.

15 49. Defendant's end-user customers directly infringe at least one or more claims of the
16 '028 Patent by using the Accused Instrumentalities in their intended manner to infringe. Defendant
17 induces such infringement by providing the Accused Instrumentalities and instructions to enable
18 and facilitate infringement, knowing of, or being willfully blind to the existence of, the '028 Patent.
19 On information and belief, Defendant specifically intends that its actions will result in
20 infringement of one or more claims of the '028 Patent, or subjectively believe that their actions
21 will result in infringement of the '028 Patent.

22 50. Commstech is entitled to recover from Defendant all damages that Commstech has
23 sustained as a result of Defendant's infringement of the '028 Patent, including, without limitation,
24 a reasonable royalty.

COUNT III: INFRINGEMENT OF U.S. PATENT NO. 7,990,860

51. Commstech incorporates by reference and re-alleges paragraphs 27-39 of this Complaint as if fully set forth herein.

52. Defendant has infringed and is infringing, either literally or under the doctrine of equivalents, the '860 Patent in violation of 35 U.S.C. § 271 et seq., directly and/or indirectly, by making, using, offering for sale, or selling in the United States, and/or importing into the United States without authority or license the Accused Products.

53. As just one non-limiting example, set forth below (with claim language in bold and italics) is exemplary evidence of infringement of Claim 1 of the '860 Patent in connection with the Accused Products. This description is based on publicly available information. Commstech reserves the right to modify this description, including, for example, on the basis of information about the Accused Products that it obtains during discovery.

54. ***1(a): A method for communicating data over a network to provide quality of service, the method including: performing by at least one processing device, at least:—*** Defendant makes, uses, sells, and/or offers to sell a device or system that practices the method of communicating data in accordance with Claim 1 by a processing device.

For instance, the ETSI standard ETSI TS 181 018 V2.0.0 discloses “Telecommunications and Internet converged Services and Protocols for Advanced Networking (TISPAN) Requirements for QoS in a NGN”. The standard discloses role of Resource Admission Control Subsystem (RACS) in QoS control in NGN. RACS performs processing of information for QoS management. Thus, RACS is a processing device for communicating data in an NGN. Furthermore, Dialogic BorderNet 4000 Session Border Controller (SBC) is based on IMS QoS solution and IMS QoS solution is compliant with ETSI TISPAN based network architecture and hence, follows this ETSI standard. BorderNet SBC includes the functionality of RACS and is compliant with ETSI ES 282

003 which is in line with the QoS Requirements described in ETSI TS 181 018. *See*
https://www.dialogic.com/webhelp/BorderNet/bn-4000/Release-3.4/pdd/BorderNet4000_SBC_Product%20Description.pdf;
https://www.etsi.org/deliver/etsi_es/282000_282099/282003/03.04.00_50/es_282003v030400m.pdf;
 and
https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf.

1(b): receiving data at a data communication system operating on a node at an edge of a network:—Defendant makes, uses, sells, and/or offers to sell a device or system that receives data at a data communication system operating on a node at an edge.

For instance, RACS control QoS through queuing and scheduling configurations in the IP edge node. The data is received at the IP edge node in the network. *See*
https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf.

1(c): determining a network status from a plurality of network statuses based on analysis of network measurements:—Defendant makes, uses, sells, and/or offers to sell a device or system that determines a network status from a plurality of network statuses based on analysis of network measurements.

For example, RACS acquires information related to current topology, resource, routing information, network devices, links, bandwidth available on the link, port utilization, queue depth, queue utilization etc. This implies that RACS analyzes network measurements as required by patent '860. QoS is managed by RACS by taking into account the available bandwidth and network resources, i.e. Current status of the network. Hence, it can be inferred that RACS determines a

current network status from a plurality of network statuses, based on the analysis of network measurements. *See*

https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf;
and
https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf.

1(d): selecting a mode from a plurality of modes based on the determined network status, wherein each of the plurality of modes corresponds with at least one of the plurality of network statuses, wherein each of the plurality of modes comprises a user defined sequencing rule:—
Defendant makes, uses, sells, and/or offers to sell a device or system that selects a mode from a plurality of modes based on the determined network status, wherein each of the plurality of modes corresponds with at least one of the plurality of network statuses, wherein each of the plurality of modes comprises a user defined sequencing rule.

For example, RACS dynamically defines QoS policies depending on the current network status. Thus, RACS dynamically changes rules and policies for QoS, i.e., network operation, depending on current network status. Hence, it can be inferred that RACS selects “modes” depending on current network status. The operator i.e., user defines QoS enforcement policies that can be dynamically changed by RACS (depending on current network status). This implies that the enforcement policies defined by the user are “user defined sequencing rule” according to Patent ‘860. Hence, it can be inferred that RACS selects a mode of QoS control depending on network status. Further, these modes comprise user defined sequencing rule (enforcement policies). *See* https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf.

1 ***1(e): prioritizing the data at the data communication system by assigning a priority to***
 2 ***the data, wherein prioritizing the data comprises sequencing the data based at least in part on***
 3 ***the user defined sequencing rule of the selected mode:***—Defendant makes, uses, sells, and/or
 4 offers to sell a device or system that prioritizes the data at the data communication system by
 5 assigning a priority to the data, wherein prioritizing the data comprises sequencing the data based
 6 at least in part on the user defined sequencing rule of the selected mode.
 7

8 For example, RACS includes a hierarchical scheduler (for sequencing the data) uses
 9 different queues for different classes of data. A high priority queue is used for high priority data
 10 and a low priority queue is used for other low priority data. Further, scheduling of these queues is
 11 determined based on available bandwidth for each class. This implies that RACS prioritizes and
 12 schedules data according to their priority (traffic class). Further, the operator (i.e. user) defines
 13 enforcement policies for media flow that are changed by RACS depending on current network
 14 status. This implies that the QoS policies of RACS related to prioritization and scheduling are
 15 based at least in part on the user defined scheduling rule (enforcement policy). Hence, RACS
 16 prioritizes data based on both priority (class) of data and user defined sequencing rules. See
 17 [https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.](https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf)
 18 [pdf](https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf).
 19
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 21

22 ***1(f): determining at least one of an effective link speed and a link proportion for at least***
 23 ***one link:***—Defendant makes, uses, sells, and/or offers to sell a device or system that determines
 24 at least one of an effective link speed and a link proportion for at least one link.
 25

26 For example, RACS determines current available bandwidth on the link from total link
 27 bandwidth by using knowledge of current utilization of resources. Thus, it can be inferred that
 28 RACS determines a link proportion from the knowledge of current utilization of resources. Further,

1 this information is used to determine the current available link bandwidth from the total bandwidth,
 2 i.e., the bandwidth that can be used to transmit data. In terms of Patent `860, the available link
 3 bandwidth from total bandwidth refers to “effective link speed” and current utilization of resources
 4 refers to “link proportion”. Hence, it can be inferred that RACS determines link proportion and
 5 this link proportion is used to determine available link bandwidth from total link bandwidth.. *See*
 6 [https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.](https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf)
 7 [pdf](https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf).

9
 10 ***1(g): metering inbound data by shaping the inbound data at the data communications***
 11 ***system for the at least one link:***—Defendant makes, uses, sells, and/or offers to sell a device or
 12 system that meters inbound data by shaping the inbound data at the data communications system
 13 for the at least one link.

14
 15 For example, RACS supports a hierarchical scheduler for managing traffic by priority
 16 queue based shaper. Thus, it can be inferred that RACS performs metering of (inbound) data by
 17 traffic shaping for at least one link. *See*
 18 [https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.](https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf)
 19 [pdf](https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf).

20
 21 ***1(h): metering outbound data by policing the outbound data at the data communications***
 22 ***system for the at least one link:***—Defendant makes, uses, sells, and/or offers to sell a device or
 23 system that meters outbound data by policing the outbound data at the data communications system
 24 for the at least one link.

25
 26 For example, RACS implements policies for different classes of data and governs
 27 bandwidth available to a particular user. RACS allocates upstream and downstream bandwidth to
 28

different users and different classes of the traffic. It also modifies the bandwidth allocation depending on current link bandwidth, QoS quality, etc. Thus, it can be concluded that RACS meters data by policing the data (outbound) for at least one link. See https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf.

1(i): communicating the data from the data communications system, wherein communicating the data comprises communicating the data based at least in part on at least one of: the priority of the data, the effective link speed, and the link proportion:—Defendant makes, uses, sells, and/or offers to sell a device or system that communicates the data from the data communications system, wherein communicating the data comprises communicating the data based at least in part on the priority of the data and the effective link speed.

For example, RACS enables data transmission (communication) based on requested QoS level or traffic classes (i.e. priority of the data). The bandwidth allocation varies for different traffic classes, i.e. it depends on the priority of data. Also, RACS takes into consideration the bandwidth available on the link (i.e., effective link speed) for QoS management. As discussed earlier, according to patent '860, link proportion is determined from current network status, i.e., current utilization of resources in the network. RACS determines current available bandwidth on the link from total link bandwidth by using knowledge of current utilization of resources. Thus, it can be inferred that RACS determines link proportion based on the current utilization of resources. Further, this link proportion is used to determine available link bandwidth from total bandwidth. Hence, it can be concluded that RACS communicates data based on priority of data, effective link speed and link proportion. See

1 [https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.](https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf)
2 pdf.

3
4 ***1(j): wherein at least the steps of receiving and prioritizing occur at a transport layer of***
5 ***a protocol stack:***—Defendant makes, uses, sells, and/or offers to sell a device or system that
6 receives and prioritizes at the transport layer of a protocol stack.

7
8 For example, NGN (i.e. RACS) implements QoS management at transport layer. Thus,
9 prioritization and receiving of data by RACS are configured to operate at transport layer. Within
10 an NGN, certain entities which are part of the transport layer implement parts of RACS. *See*
11 [https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.](https://www.etsi.org/deliver/etsi_TS/181000_181099/181018/02.00.00_60/ts_181018v020000p.pdf)
12 pdf; and
13 [https://www.etsi.org/deliver/etsi_ts/181000_181099/181005/03.03.01_60/ts_181005v030301p.p](https://www.etsi.org/deliver/etsi_ts/181000_181099/181005/03.03.01_60/ts_181005v030301p.pdf)
14 df.

15
16 55. Commstech is in compliance with any applicable marking and/or notice provisions
17 of 35 U.S.C. § 287 with respect to the ‘860 Patent.

18
19 56. Commstech is entitled to recover from Defendant all damages that Commstech has
20 sustained as a result of Defendant’s infringement of the ‘028 Patent, including, without limitation,
21 a reasonable royalty.

22 **COUNT IV: INDUCED AND CONTRIBUTORY INFRINGEMENT OF U.S. PATENT**
23 **NO. 7,990,860**

24 57. Defendant has been and/or currently is an active inducer of infringement of the ‘860
25 Patent under 35 U.S.C. § 271(b).

26 58. Defendant has had knowledge of the ‘860 Patent and that the Accused
27 Instrumentalities infringe at least claim one since at least the date of the filing of this complaint.
28

61. Defendant's end-user customers directly infringe at least one or more claims of the '860 Patent by using the Accused Instrumentalities in their intended manner to infringe. Defendant induces such infringement by providing the Accused Instrumentalities and instructions to enable and facilitate infringement, knowing of, or being willfully blind to the existence of, the '860 Patent. On information and belief, Defendant specifically intends that its actions will result in infringement of one or more claims of the '860 Patent, or subjectively believe that their actions will result in infringement of the '860 Patent.

PRAYER FOR RELIEF

A. That Judgment be entered that Defendant has infringed at least one or more claims of the '340 Patent, directly and/or indirectly, literally and/or under the doctrine of equivalents;

ORIGINAL COMPLAINT
No.

1 of Defendant's willful infringement;

2 C. That the case be found exceptional under 35 U.S.C. § 285 and that
3 Commstech be awarded its reasonable attorneys' fees;

4 D. Costs and expenses in this action;

5 E. An award of prejudgment and post-judgment interest; and

6 F. Such other and further relief as the Court may deem just and proper.
7

8 **DEMAND FOR JURY TRIAL**

9 Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Commstech respectfully
10 demands a trial by jury on all issues triable by jury.
11

12 Respectfully submitted,
13

14 Dated: November 17, 2020

INSIGHT, PLC

15 /s/ Steven W. Ritcheson

16 STEVEN W. RITCHESON

17 Attorney for Plaintiff

Commstech LLC
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